

SIP Spider 1100/10T tedder:

Spinning spider

If you want to get away from the established crowd, then how about considering Slovenian manufacturer SIP? We put its 10-rotor Spider tedder through a lengthy test to see how it performs in the field



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Tedding grass at a rate of 10ha per hour is not a problem for the 10-rotor Spider.

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SIP intends to make a bigger splash on the western European market by selling 'premium' products including tedders, an area that the firm views as having particular potential. One of the tedder models on offer from SIP is the semi-mounted Spider 1100/10T, and it's this unit that was delivered to us for an extensive profi test. Incidentally, the Spider line-up spans 3.4m all the way up to 14.8m. The 10T's 10 rotors give a 10.2m working width, which should strike a chord with farmers and contractors wanting to crack on. And thanks to its semi-mounted design, the machine can also be used with smaller tractors, albeit there is a fully mounted version, too.

So let's begin with tractor attachment. The clevis hitch on the trailed Spider can be slung under the pto – or above if you have a ladder hitch on the tractor, as we did. The hitch worked fine but it was necessary to move the otherwise excellent pto holder out



The headland spreading curtain and lights come first. Next, the 10 rotors swing over the transport axle ...



... before unfolding. The hooped frame is made from 40mm pipe with a 2.5mm wall. Everything is carried on a very strong and stable 160mm x 90mm main frame.

of the way before we could connect to the tedder. After we attached the wide-angle Walterscheid drive shaft, there were just the one single- and two double-acting lines to plug in. One of those double-acting spools controls the optional hydraulic tine height adjustment system – a SIP patent. Hydraulic brakes are fitted – to help bring the 2,430kg tedder to a safe stop – and then there's only the parking stand to fold away before finally hitting the road, where it has to be said that the 10T rather excels. Tucking into the requisite 3.0m and measuring just 5.05m in length, the wide tedder makes for a relatively compact and agile unit when shifting between sites.

Once in the field, you operate the double-acting spool to drop the Spider into its headland position. All functions, from lowering the boundary guard and lifting the lights and warning panels to operating the folding arms, are sequence-controlled and carried out mechanically and hydraulically. Now the machine is in its headland position, you simply work the single-acting spool, and the double-piston cylinder duly lowers all 10 rotors to the ground. It happens seamlessly – but does take a lengthy 39secs. Because the tedder is so compact, and because the 10 rotors move over the transport axle on the way to their work position, the design inevitably leads to negative tongue

Measurements and prices

SIP Spider 1100/10 T	
Working width	10.20m
Hitch system	Clevis
Hydraulic requirements	1 s/a, 2 d/a
Unfold/folding times	39sec/39sec
Transport locking system	Hydraulic
Rotors	
Rotor diameter	1.46m
Rotor spacing	1.08m
Rotor orbit overlap	350mm
Rotor speed:pto speed ratio	1.00:2.75
Rotor speed at 540rpm	196rpm
Hoop ground clearance with rotors set steep	430mm
Dimensions and weights	
Weight	2,430kg
Tongue load on hitch	410kg
Tongue load in headland position	-460kg
Transport (length/width/height)	5.05/2.99/2.44m
Tyres	
On the rotors	18.5 x 8.5-8/
(middle/remainder)	16x6.5-8
On running gear	380/55-17 (BKT)
Tines	
Tine arm	Six arms/rotor, 38mm diameter, 5mm walls
Tine length (outside/inside)	330/305mm
Coil diameter	60mm
Number of coils	Five
Prices	
For base spec	€21,500
Hydraulic height control	€500
Hydraulic brakes	€550
Border spreading curtain	€250
Test spec	€22,800

Test assessment

SIP Spider 1100/10 T

Unfolding for work	○
Ride quality in transport	+
Work height control	++
Ground contour following	+
Picking up the crop	+
Border spreading system	✗
Ride stability	++
Headland position	++
Stand	○
Drive shaft	+
Hydraulic hoses	+
Spreading angle control	+
Pto shaft holder	-
Maintenance	○
Tine securing system	+
Paint finish	○
Build quality	+

Grading system: ++ = very good;
 + = good; ○ = average;
 - = below average; - - = poor;
 ✗ = not available

loads of up to 460kg, so don't try to use too light a tractor. Proving the point, by the time we reached the end of our test period the 5.7t axle had visibly bent under the load, although, to be fair, SIP says this was down to the axle having been fitted incorrectly. It stresses that this wouldn't be an issue on a normal production machine.

Power flows down wide-angle drive shafts to a frame-mounted shaft that runs in two bearings. During our test this shaft started vibrating at 540rpm and in high crop volumes. SIP comments that other machines haven't suffered from similar bearing issues and that our test unit has since been sold on and the new owner hasn't reported any problems.

Another drive shaft on the frame drives the rotors, which are oil-immersed and maintenance-free, and the driveline relies on interlocking finger clutches at the rotor pivots. The rotors spin very fast, with the 540rpm pto speed equating to 196rpm at the rotors, which really sends the crop flying wide and high. The small 146cm diameter rotors can be adjusted without tools to one of three different angles (15°, 18° and 21°), and each rotor has six tines for intensive tedding. As pto speed is so high, buyers shouldn't underestimate the input power required to develop these speeds. We used 70hp to 130hp tractors for our test, with the 70hp



The spreading angle can be set to one of three positions.

model having just about enough grunt on flat fields with high grass yields.

It's worth pointing out the running gear is positioned ahead of the rotors, allowing the Spider to float across the ground – as we found in our 10m group tedder test in the 03/2015 and 04/2015 issues. When lifted at the headland the rotors move up and over the transport wheels, whereas in work the close position of the rotors and transport wheels means the latter act as gauge wheels to assist with contour following. One drawback is the transport wheels run on the crop – but, then again, so does the tractor.

Once at the headland the tedder can lift out with the rotors still spinning. And assuming the tractor is manoeuvrable enough, it can turn straight back into work to achieve outputs of 10ha/hr+ (including headland turning time) if the field is at least 5ha.

Working height can be changed hydraulically (optional).



Rotor driveline uses interlocking fingers. The system worked faultlessly and is maintenance-free.



The tines measure different lengths and do a top job of picking up the grass. We didn't have any tines break, not one during the entire test. If one should snap, then there's an extra plastic sleeve that secures them to the 38mm tine arm.

The plates that stop material from wrapping on the rotor wheels are recommended in sugar-rich crops. Niggle here is that the plate is at risk of deforming when hit by a tine on the opposite rotor when folding. For the same reason operators should avoid engaging the pto when the machine is folded.

Other details:

- The hoop provides strength across the full working width of the machine
- Paint finish could be improved in some areas
- Maintenance is quick, though not all of the grease nipples are easy to access
- 1,300Nm slip clutch protects the driveline
- Hose rack including holder is adequate
- The double-acting hoses are grouped, but there's no indication of direction of flow.

Summary: The Spider did an excellent job, with the tines picking up grass cleanly and the high-speed rotors spreading it wide and evenly. Operating and adjusting the machine is a doddle, while special praise goes to the running gear ahead of the rotors. Downers? Folding is not the most rapid of sequences, and the 10T's compact design results in negative tongue load on the hitch when folding in/out. Our test machine also had some build quality issues.

On price, Irish distributor Farmec (the UK doesn't currently have an importer) says the 'list' for the Spider 1100/10T is €21,500.

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